

**GREATHOUSE PLACE (GREATHOUSE)  
FIVE LOT MINOR SUBDIVISION**

**STAFF REPORT FOR PLANNING BOARD**

**CASE PLANNER:** John Lavey *JL*

**REVIEWED/  
APPROVED BY:** Renee Van Hoven *RV*

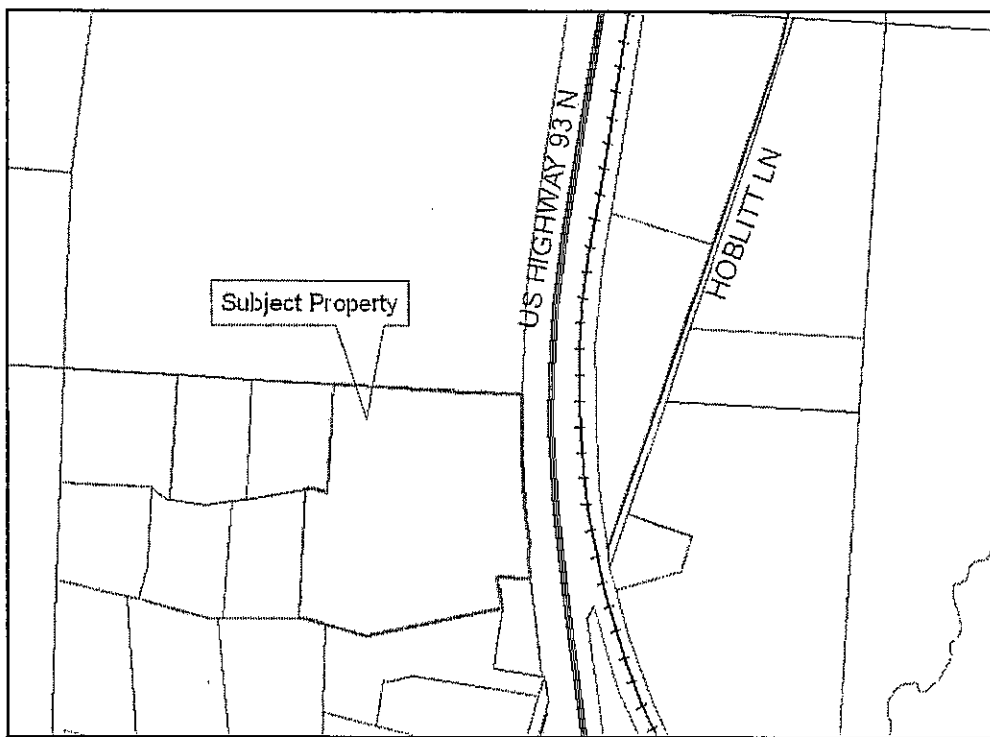
**PUBLIC HEARINGS/  
MEETINGS:**

RCPB Public Hearing:	March 21, 2007
Deadline for PB recommendation to BCC:	April 4, 2007
BCC Public Meeting:	9:00 a.m. April 12, 2007
Deadline for BCC action (35 working days):	May 9, 2007

**SUBDIVIDER/OWNER:** Victoria Greathouse  
239 Martin  
Florence, MT 59833

**REPRESENTATIVE:** Terry Nelson, Applebury Survey, 961-3267  
914 Highway 93  
Victor, MT 59875

**LOCATION OF REQUEST:** The property is located south of Florence off US Highway 93. (See Map 1)



**Map 1: Location Map**  
(Source Data: Ravalli County GIS Department)

**LEGAL DESCRIPTION****OF PROPERTY:**

Tract 1 of COS# 541685 located in the SE ¼ of Section 27, T10N, R20W, P.M.M., Ravalli County, Montana.

**APPLICATION****INFORMATION:**

The subdivision application was determined complete on February 23, 2007. Agencies were notified of the subdivision and comments received by the Planning Department not included in the application packet are Exhibits A-1 through A-4 of the staff report.

**LEGAL NOTIFICATION:**

A legal advertisement was published in the Ravalli Republic on Tuesday, March 6, 2007. Notice of the project was posted on the property and adjacent property owners were notified by certified mail postmarked February 26, 2007.

**DEVELOPMENT****PATTERN:**

Subject property	Single family residence and open field
North	Open field/agriculture
South	Large lot residential
East	Highway 93/Large lot residential
West	Large lot residential

**INTRODUCTION**

The Greathouse Place minor subdivision is a five lot subdivision of 13.48 acres located south of Florence. The property is located within a voluntary zoning district, which limits lot sizes to a minimum of 2.5 acres. The proposal complies with the zoning district standards. All lots are proposed for single family residential use. A no-build/alteration zone is proposed on steep slopes that traverse Lots A3 through A5.

*Staff recommends conditional approval of the subdivision proposal.*

RAVALLI COUNTY PLANNING BOARD  
MARCH 21, 2007

GREATHOUSE PLACE  
FIVE-LOT MINOR SUBDIVISION

**RECOMMENDED MOTION**

That the Greathouse Place Minor Subdivision be **approved**, based on the findings of fact and conclusions of law in the staff report and subject to the conditions in the staff report.

**RECOMMENDED MITIGATING CONDITIONS OF APPROVAL FOR THE SUBDIVISION**

1. A document entitled "Notifications to Future Property Owners" that includes the following notifications and the attachments listed below shall be included in the submittal of the final plat to the Planning Department and filed with the final plat:

***Notification of Proximity to Agricultural Operations.*** This subdivision is located near existing agricultural activities. Some may find activities associated with normal agricultural activities objectionable and dangerous. *(Effects on Agriculture)*

***Limitation of Access onto a Public Road.*** A "no-ingress/egress" restriction exists along the US Highway 93 frontage of this subdivision, excepting the approved approach for the internal subdivision road. All lots within this subdivision must use this approved approach. This limitation of access may be lifted or amended only with the approval of the Board of County Commissioners and Montana Department of Transportation. *(Effects on Local Services and Public Health & Safety)*

***Notification of Road Maintenance Agreement.*** The internal subdivision road is not maintained by Ravalli County, the State of Montana, or any other governmental entity. Neither the County nor the State assumes any liability for lacking or improper maintenance. A Road Maintenance Agreement for this road was filed with this subdivision and outlines which parties are responsible for maintenance and under what conditions. *(Effects on Local Services)*

***Notification of No-Build/Alteration Zone.*** Within this subdivision there is a no-build/alteration zone located on Lots A3 through A5, as shown on the plat, to restrict building in areas with steep slopes. No new structure, with the exception of fences, may be constructed in this area and vegetation shall be retained in its natural condition. *(Effects on Natural Environment and Public Health & Safety)*

***Notification of Severe Soils.*** Within this subdivision there are areas of the property identified by the Natural Resources Conservation Service (NRCS) as potentially having soils rated as severe for road construction and building sites. The approximate locations of these areas can be found on a reduced copy of the final plat. Descriptions of the severe soils in question are included as exhibits to this document [the subdivider shall include the exhibits as attachments]. *(Effects on Public Health & Safety)*

2. Protective covenants for this subdivision shall be submitted with the final plat that include the following provisions:

***Waiver of Protest to Creation of RSID/SID.*** Owners and their successors-in-interest waive all rights in perpetuity to protest the creation of a city/rural improvement district for any purpose allowed by law, including, but not limited to, a community water system, a community

wastewater treatment system, and improving and/or maintaining the roads that access the subdivision, including related right-of-way, drainage structures, and traffic control signs. *(Effects on Local Services)*

**Living with Wildlife.** (See Application for required provisions.) *(Effects on Wildlife & Wildlife Habitat)*

**Lighting for New Construction.** Full cut-off lighting shall be required for any new construction within this subdivision. A full cut-off fixture means a+ fixture, as installed, that is designed or shielded in such a manner that all light rays emitted by the fixture, either directly from the lamps or indirectly from the fixture, are projected below a horizontal plane through the lowest point on the fixture where light is emitted. The source of light must be fully shielded on the top and sides, so as not to emit light upwards or sideways, but only allowing light to shine down towards the subject that is to be lighted. Spotlighting of flag poles shall be permitted. *(Effects on Public Health & Safety)*

**Radon Exposure.** The owner understands and accepts the potential health risk from radon concentrations, which are presently undetermined at this location. Unacceptable levels of radon can be reduced through building design and abatement techniques incorporated into structures. Property owners are encouraged to have their homes tested for radon. Contact the Ravalli County Environmental Health Department for further information. *(Effects on Public Health & Safety)*

**Primary Heat Source.** The primary heat source for the newly constructed residences in this subdivision shall be at least 75% efficient. *(Effects on Natural Environment)*

**Control of Noxious Weeds.** Lot owners shall control the growth of noxious weeds on their respective lot(s). Contact the Ravalli County Weed District for further information. *(Effects on Natural Environment)*

**Required Posting of County-Issued Addresses for Lots within this Subdivision.** The Florence Rural Fire District has adopted the Uniform Fire Code which requires the lot owners to post County-issued addresses at the intersection of the driveways leading to the residences and the internal subdivision roads as soon as construction on the residences begins. *(Effects on Local Services & Effects on Public Health and Safety)*

**Access Requirements for Lots within this Subdivision.** The Florence Rural Fire District has adopted the Uniform Fire Code. All accesses, including driveways to residences over 150' in length, must have a minimum unobstructed travel surface width of 20', a vertical clearance of 13'6", maximum grade of 6%, and an all weather surface that can accommodate the weight of a fire truck to meet requirements of the Uniform Fire Code. Please contact the Florence Rural Fire District at PO Box 721, Florence, MT, for further information on the requirements of the Florence Rural Fire District and/or the Uniform Fire Code. *(Effects on Local Services & Effects on Public Health and Safety)*

**Amendment.** Written governing body approval shall be required for amendments to provisions of the covenants that were required to be included as a condition of subdivision approval. *(Effects on all six criteria)*

3. The subdividers shall include an RSID/SID waiver in a notarized document filed with subdivision plat that states the following: Owners and their successors-in-interest waive all rights in perpetuity to protest the creation of a city/rural improvement district for any purpose

allowed by law, including, but not limited to a community water system, a community wastewater treatment system, and improving and/or maintaining the roads that access the subdivision including related right-of-way, drainage structures, and traffic control signs. *(Effects on Local Services)*

4. The subdivider shall provide evidence with the final plat submittal that they have applied for County-issued addresses for each lot within this subdivision. *(Effects on Local Services and Public Health & Safety)*
5. Prior to final plat approval, the subdividers shall provide a letter from the Florence Rural Fire District stating that they have provided the required 1,000 gallon-per-minute water supply or 2,500 gallon-per-lot water storage for fire protection for each lot within this subdivision. Alternatively, the subdividers may provide evidence that a \$500-per-lot contribution has been made to the Florence Rural Fire District with the final plat submittal in lieu of the required water supply or water storage for fire protection. *(Effects on Local Services and Public Health & Safety)*
6. The subdivider shall submit a letter or receipt from the Florence School District stating that they have received (an amount to be determined by the Planning Board)-per-lot contribution prior to final plat approval. Alternatively, the subdivider may place an encumbrance on the final plat stating that the (amount) contribution shall be made to the School District upon first conveyance, including lease or rent, of each lot. *(Effects on Local Services)*
7. The final plat shall show a no-ingress/egress zone along the US Highway 93 frontage of the subdivision, excepting the approach for the internal subdivision road, as approved by the Montana Department of Transportation. *(Effects on Local Services and Public Health & Safety)*
8. "No Parking" signs shall be placed along the residential frontage of the internal subdivision road in accordance with the Federal Highway Administration's Manual on Uniform Traffic Control Devices, 2003 edition, and as reviewed and approved by the Ravalli County Planning Department. *(Effects on Local Services and Public Health & Safety)*
9. A stop sign and road name sign shall be installed at the intersection of Sunrider Lane and US Highway 93 prior to final plat approval. *(Effects on Local Services and Public Health & Safety)*
10. The no-build/alteration zone, as shown on the preliminary plat, shall be shown on the final plat. *(Effects on the Natural Environment and Public Health & Safety)*



## **SUBDIVISION REPORT**

### **COMPLIANCE WITH PRIMARY SUBDIVISION REVIEW CRITERIA**

#### **CRITERION 1: EFFECTS ON AGRICULTURE**

##### **Findings of Fact:**

1. The proposed minor subdivision on 13.48 acres will result in 5 lots that range in size from 2.5 acres to 3.37 acres. The property is located approximately one mile south of the community of Florence off U.S. Highway 93.
2. The property is located in an area of residential and agricultural uses. To mitigate impacts on agriculture, a notification of proximity to agricultural operations shall be included in the notifications document filed with the final plat. (*Condition 1*)
3. According to the application, the property has been used for agriculture in the past.
4. There are no soils on the property that are listed as Prime Farmland Soils or Farmland of Statewide Importance by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS).

##### **Conclusions of Law:**

1. With the mitigating condition of approval, impacts of the subdivision on surrounding agriculture will be reduced.
2. The creation of these lots will not take Prime Farmland or Farmland of Statewide Importance out of production.

#### **CRITERION 2: EFFECTS ON AGRICULTURAL WATER USER FACILITIES**

##### **Finding of Fact**

According to the application, there are no water rights or irrigation infrastructure currently associated with this property.

##### **Conclusion of Law:**

This subdivision will have no significant impacts on agricultural water user facilities.

#### **CRITERION 3: EFFECTS ON LOCAL SERVICES**

##### **Findings of Fact:**

1. There are five proposed single family residential lots within this subdivision. Lot A5 has an existing home. It is estimated at build-out that this subdivision will generate an additional 32 vehicular trips per day, assuming 8 trips per day per single-family dwelling.
2. With this subdivision, it is estimated that approximately 2.0 school-aged children will be added to the Florence School District, assuming an average of 0.5 children per single family residence. (Source: 2000 Census)
3. To mitigate impacts on local services, the subdivider shall apply for County-issued addresses. A provision requiring property owners to post County-issued addresses at their driveways shall be included in the covenants. (*Conditions 2 & 4*)
4. The Planning Department received a letter from the Montana Department of Transportation (MDT) on April 19, 2006 (Exhibit A-2). In the letter, they state: "MDT cannot allow a public access at this location..." In a follow up phone call to MDT, staff determined that MDT would grant access to US Highway 93 if the final plat labeled the internal subdivision road as a "private road within a private easement".
5. To mitigate impacts on the local road system, the final plat shall show a no-ingress/egress zone along the US Highway 93 frontage of the subdivision, excepting the Montana Department of Transportation (MDOT) approved approach for the internal subdivision road. A notification of this limitation of access shall be included in the notifications document. (*Conditions 1 & 7*)

6. The subdivision is located within the Florence Rural Fire District. The Florence Rural Fire District has provided comments on previous subdivision proposals indicating they have adopted a policy which addresses access, posting of addresses, and water supply requirements. Conditions of final plat approval will meet the recommendations of the Florence Rural Fire District. (Conditions 2 & 5)
7. The Florence-Carlton School District was notified of the subdivision proposal. In a letter dated February 26, 2007, the School District requested a \$10,418.00 per lot contribution. The subdivider is proposing a \$250 voluntary donation to the school district for lots A1 through A4. To mitigate impacts on local services, the subdivider shall provide evidence that a contribution (to be determined by the BCC in consultation with the Planning Board and developer) to the School District has been made prior to final plat approval. (*Condition 6*) (Exhibit A-1)
8. To mitigate potential impacts of this subdivision on any possible future public water, sewer system, or improvements to the road system, the RSID/SID waiver filed with the final plat shall address these services/facilities. (*Conditions 2 and 3*)
9. A stop sign is proposed on Sunrider Lane at its intersection with US Highway 93. The stop sign and a road name sign shall be installed prior to final plat approval. (*Condition 9*)
10. Submittal of a final grading and drainage plan approved by Montana Department of Environmental Quality (DEQ), a General Discharge Permit for Storm water Associated with Construction activity from DEQ (if required), an approved road name petition, and certification that the constructed road meets County standards are requirements of final plat approval.
11. The subdivider is proposing to construct one internal subdivision road to provide service to all the lots within the subdivision. The application packet states that the internal road is proposed to meet County standards and have an 18-foot-wide asphalt paved travel surface with two-foot shoulder widths within a 60-foot-wide public utility easement. An engineer's certification that the roads meet County standards is a requirement of final plat approval. The road plans have received preliminary approval from the Road Department. (Exhibit A-4)
12. In the preliminary road design approval packet, the County's consulting engineer recommends that "No Parking" signs be installed (Exhibit A-4). To mitigate impacts on local services and ensure access by emergency vehicles, "No Parking" signs shall be placed along the frontage of the internal road in accordance with the Federal Highway Administration's Manual on Uniform Traffic Control Devices, 2003 edition and as reviewed and approved by the Ravalli County Planning Department. (*Condition 8*)
13. To mitigate impacts on local services, the subdivider shall submit a road name petition approved by the Ravalli County GIS Department for the internal subdivision road prior to final plat approval.
14. Installation of all infrastructure improvements is required to be completed prior to final plat approval, which includes construction of the road and installation of the stop sign, no parking signs, and road name sign.
15. Individual wells and wastewater treatment systems are proposed to serve the lots.
16. A preliminary road maintenance agreement was included in the application packet. The final plat application packet is required to include a road maintenance agreement that meets the requirements of the Ravalli County Subdivision Regulations. A notification of the road maintenance agreement shall be included in the notifications document filed with the final plat. (*Condition 1*)
17. Bitterroot Disposal provides service to this site.
18. The Ravalli County Sheriff's Office provides law enforcement services to this area.
19. Public services are adequate to serve this subdivision.

#### Conclusion of Law:

With the mitigating conditions of approval and requirements of final plat approval, impacts of the subdivision on local services will be reduced.



#### **CRITERION 4: EFFECTS ON NATURAL ENVIRONMENT**

##### **Findings of Fact:**

1. The property is currently being used for a single family residence and is covered with grasses and trees.
2. There are areas of steep slopes traversing proposed Lots A3 through A5. The applicant is proposing a no-build zone from the top of the slope to the southern property boundary. As a requirement of approval, the slopes shall be labeled as a no build/alteration zone. (*Conditions 1 & 11*)
3. To mitigate air pollution resulting from home heating emissions, the protective covenants filed with the final plat shall state that the primary heat source for any newly constructed residences must be at least 75% efficient. (*Condition 2*)
4. An approved noxious weed and vegetation control plan is required to be filed with the final plat for each phase. According to MCA 7-22-2152, any person proposing a development that needs state or local approval and that results in the potential for noxious weed infestation within a weed district shall notify the weed board at least 15 days prior to activity. Consequently, 15 days prior to activities requiring a revegetation plan, such as road construction, the plan shall be submitted to the weed board for approval by the board. The subdivider has proposed a provision in the covenants that the owners of each lot control noxious weeds. To mitigate impacts on the natural environment, a noxious weed control provision shall be included in the protective covenants filed with the final plat for this subdivision. (*Condition 2*)
5. The Montana Department of Environmental Quality provided documentation indicating that they have received adequate information for local subdivision review to occur (*Exhibit A-3*). Individual wells and wastewater treatment systems are proposed to serve lots within the subdivision. A Certificate of Subdivision Plat Approval from Montana Department of Environmental Quality (DEQ) is required to be submitted with the final plat.

##### **Conclusion of Law:**

Impacts from this subdivision on the natural environment will be reduced with the mitigating conditions and requirements of final plat approval.

#### **CRITERION 5: EFFECTS ON WILDLIFE & WILDLIFE HABITAT**

##### **Findings of Fact:**

1. A letter from Montana Fish, Wildlife, and Parks (FWP) recommends that the Living with Wildlife provisions be included with the covenants for this subdivision. (*Application*) (*Condition 2*)
2. The property is not located within big-game winter range, as identified by Montana Fish, Wildlife, and Parks.

##### **Conclusion of Law:**

With the mitigating condition of final plat approval, impacts on wildlife & wildlife habitat will be reduced.

#### **CRITERION 6: EFFECTS ON PUBLIC HEALTH & SAFETY**

##### **Findings of Fact:**

1. To mitigate impacts on Public Health & Safety, the subdivider shall apply for County-issued addresses and a provision requiring property owners to post County-issued addresses at their driveways shall be in the covenants. (*Conditions 2 & 4*)
2. The preliminary plat shows that Lots A3 through A5 have steep slopes (greater than 25%), which are required to be identified as no build/alteration zones on the final plat. In order to mitigate impacts on Public Health & Safety, notification of the no-build/alteration zone shall be included in the notifications document and the no-build/alteration zone placed on the final plat. (*Conditions 1 and 11*)

3. The proposed subdivision is located within the Florence Rural Fire District. Conditions 2 and 5 address impacts to the District.
4. To mitigate the impacts of light pollution stemming from new construction, the protective covenants shall include a provision requiring full cut-off lighting with the exception of flag poles. *(Condition 2)*
5. In the preliminary road design approval packet, the County's consulting engineer recommends that "No Parking" signs be installed (Exhibit A-4). To mitigate impacts on local services and ensure access by emergency vehicles, "No Parking" signs shall be placed along the frontage of the internal road in accordance with the Federal Highway Administration's Manual on Uniform Traffic Control Devices, 2003 edition and as reviewed and approved by the Ravalli County Planning Department. *(Condition 8)*
6. There is a prevalence of radon in the County and to mitigate impacts on Public Health & Safety, the covenants shall include a statement regarding radon exposure. *(Condition 2)*
7. To mitigate impacts on local services and Public Health & Safety, stop signs and road name signs shall be installed at the intersections of the internal road and US Highway 93 prior to final plat approval. *(Condition 9)*
8. The Ravalli County Sheriff's Office provides services to this subdivision.
9. With the conditions and requirements of final plat approval, access to the subdivision will be adequate for Public Health & Safety.
10. The preliminary plat and soils map indicate that the subdivision may have soils rated as severe for road and building construction. To educate property owners and to mitigate potential impacts of this subdivision on Public Health & Safety, a notification of the potential for severe soils shall be included in the notifications document filed with the final plat. A reduced plat showing the approximate locations of soils rated as severe for roads and building construction and descriptions of the severe soils in question shall be attached to the notifications document as an exhibit. *(Condition 1)*
11. Individual wells and wastewater treatment systems are proposed for lots within this subdivision. *(Natural Environment)*

Conclusion of Law:

The mitigating conditions and requirements of final plat approval will address impacts on Public Health & Safety.

**COMPLIANCE WITH:**

**1) THE SURVEY REQUIREMENTS PROVIDED FOR IN PART 4 OF M.C.A. 76-3.**

Finding of Fact:

The Seal of a Professional Land Surveyor or Engineer is required on all final plats, which states that the subdivision complies with part 4 of M.C.A. 76-3.

Conclusion of Law:

This proposal meets the survey requirements, or conditions have been required to bring the proposal into compliance.

**2) THE LOCAL SUBDIVISION REGULATIONS PROVIDED FOR IN PART 5 OF M.C.A. 76-3.**

Finding of Fact:

Subdivisions are required to comply with the local subdivision regulations provided for in part 5 of M.C.A. 76-3.

Conclusion of Law:

The subdivider has submitted a plan that complies with the requirements of local subdivision regulations, or conditions have been required that will bring the plan into compliance.

### **3) THE LOCAL SUBDIVISION REVIEW PROCEDURE PROVIDED FOR IN THE RAVALLI COUNTY SUBDIVISION REGULATIONS**

#### **Findings of Fact:**

1. Subdivisions are required to comply with the local subdivision review procedure provided for in the Ravalli County Subdivision Regulations.
2. A decision of the governing body rejecting or approving a proposed subdivision may be appealed to the district court within thirty (30) days of such decision. The petition shall specify the grounds upon which the appeal is made. An appeal may be made by the subdivider; a landowner with a property boundary contiguous to the proposed subdivision or a private landowner with property within the unincorporated area of the county that can show a likelihood of material injury to the landowner's property or its value; a first class municipality if the subdivision is within three miles of its limits, a second class municipality if a subdivision is within two miles of its limits, or a third class municipality or town if the subdivision is within one mile of its limits. An aggrieved party means a person who can demonstrate a specific personal and legal interest, as distinguished from a general interest, who has been or is likely to be specially and injuriously affected by the decision.

#### **Conclusion of Law:**

This development plan proposal has followed the necessary application procedure and has been reviewed within the procedures provided in Chapter 3 of the Ravalli County Subdivision Regulations.

### **CONSISTENCY WITH EXISTING ZONING AND COVENANTS**

#### **Findings of Fact:**

1. There are existing covenants on the property (Application). The proposal appears to be consistent with existing covenants.
2. The property is located within the "Hawk" voluntary zoning district (Permanent file # 6402).
3. Interim County-wide zoning applies to this subdivision.

#### **Conclusions of Law:**

1. This proposal appears to comply with existing zoning regulations and covenants.
2. This proposal complies with County-wide interim zoning.

### **PROVISION OF EASEMENTS FOR UTILITIES**

#### **Findings of Fact:**

1. The preliminary plat indicates that existing utility easements are located along the internal subdivision road.
2. According to the application, the proposed subdivision will be served by Missoula Electric Cooperative and Qwest Telephone. Utility companies have been notified of the proposed subdivision. No comments have been received to date.
3. Utility certificates are a requirement of final plat approval.

#### **Conclusion of Law:**

Utility services are available to the subdivision.

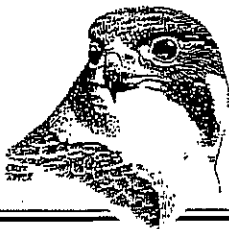
### **PROVISION OF LEGAL AND PHYSICAL ACCESS**

#### **Finding of Fact:**

Physical and legal access for this subdivision is proposed via US Highway 93. The lots will access off an internal road. (*Local Services*)

Conclusion of Law:

With the conditions of approval and requirements of final plat approval, the proposal meets physical and legal access requirements.



**F**LORENCE  
**C**ARLTON  
**S**CHOOL

FCS Home Page: [www.florence.k12.mt.us](http://www.florence.k12.mt.us)

RECEIVED

FEB 27 2007  
IC-07-02-247  
Ravalli County Planning Dept

5602 Old Hwy 93  
Florence MT 59833

JOHN MCGEE  
SUPERINTENDENT  
Ph. (406) 273-6751

REBECCA STAPERT  
PRINCIPAL, GR. 9-12  
Ph. (406) 273-6301

EDWARD NORMAN  
PRINCIPAL, GR. 6-8  
Ph. (406) 273-0587

VANCE VENTRESCA  
PRINCIPAL, GR. K-5  
Ph. (406) 273-6741

CHRISSY HULLA  
ASST. PRINCIPAL, GR. K-5  
Ph. (406) 273-6741

JULIE LORENSEN  
BUSINESS MANAGER  
Ph. (406) 273-6751

February 26, 2007

Ravalli County Planning Department  
215 South 4<sup>th</sup> Street; Suite F  
Hamilton, MT 59840

Re: Greathouse Place Minor Subdivision

Dear Mr. Lavey:

Your letter to the Florence-Carlton School District dated February 23, 2007, requested comments about the Greathouse Place Minor Subdivision. In anticipation of this and other subdivisions, our district formed a Mitigation Fee Committee. This committee took an in depth look at the impact subdivisions would have on our district. They used information commonly requested by the county commissioners when reviewing subdivisions, and information from an August 8, 2006 Impact Fee Study completed for our district. You will find that the district is requesting a fee of \$10,418 per lot, and will file this request with the Ravalli County Planning Board. We also wish to have it on record that the District will not provide transportation services for any students who do live on county roads.

If you have any questions, please do not hesitate to contact me.

Sincerely,

John C. McGee  
Superintendent

**EXHIBIT A-1**



Montana Department of Transportation

2701 Prospect Avenue  
PO Box 201001  
Helena MT 59620-1001

Jim Lynch, Director  
Brian Schweitzer, Governor

**RECEIVED**

APR 21 2006

16-06-04-625  
Ravalli County Planning Dept.

April 19, 2006

Ravalli County Planning Office  
215 S. 4th Street, Suite F  
Hamilton, MT 59840

**EXHIBIT A-2**

Subject: Deerhaven Lane Access to US 93

The Montana Department of Transportation (MDT) has reviewed the proposed subdivision and corresponding approach permit application.

Deerhaven Lane is proposed as a public road. MDT cannot allow a public access at this location, as it would be contrary to the access control resolution, final Environmental Impact Statement and the Record of Decision. Allowing a public approach at this location would place the remaining construction project in jeopardy.

As long as the subject roadway is proposed or exists as public, MDT must deny access to US 93.

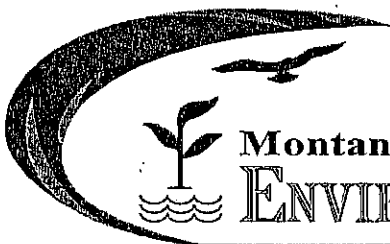
Please contact me to set up a meeting, so we can resolve this issue.

Sincerely,

Ed Ereth, System Impact Action Supervisor  
Program & Policy Analysis Section  
Rail, Transit & Planning Division

Copies: Dwane Kailey, Missoula District Administrator  
Jim Skinner, MDT Program and Policy Manager  
Lyle Manley, MDT Legal Services  
Greg Pizzini, MDT Access Manager  
File

4383



Montana Department of  
**ENVIRONMENTAL QUALITY**

Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • [www.deq.mt.gov](http://www.deq.mt.gov)  
August 12, 2005

**RECEIVED**

**AUG 16 2005**

Howard Anerson  
Specialized Engineering  
PO Box 535  
Hamilton MT 59840

**EXHIBIT A-3**

Ravalli County Planning Dept.

*IC-05-08-1549*

RE: Greathouse Place Subdivision  
Ravalli County  
E.Q. #06-1075

Dear Mr Anderson:

The plans and supplemental information relating to the water supply, sewage, solid waste disposal, and storm drainage (if any) for the above referenced division of land have been reviewed as required by ARM Title 17 Chapter 36(101-805) and have been found to be in compliance with those rules.

Two copies of the Certificate of Subdivision Plat Approval are enclosed. The original is to be filed at the office of the county clerk and recorder. The duplicate is for your personal records.

Development of the approved subdivision may require coverage under the Department's General Permit for Storm Water Discharges Associated with Construction Activity, if your development has construction-related disturbance of one or more acre. If so, please contact the Storm Water Program at (406) 444-3080 for more information or visit the Department's storm water construction website at <http://www.deq.state.mt.us/wqinfo/MPDES/StormwaterConstruction.asp>. Failure to obtain this permit (if required) prior to development can result in significant penalties.

Your copy is to inform you of the conditions of the approval. Please note that you have specific responsibilities according to the plat approval statement primarily with regard to informing any new owner as to any conditions that have been imposed.

If you wish to challenge the conditions of this Certificate of Subdivision Plat Approval, you may request a hearing before the Board of Environmental Review or the Department, pursuant to Section 76-4-126, MCA and the Montana Administrative Procedures Act.

If you have any questions, please contact this office.

Sincerely,

*Jon Dilliard*  
Jon Dilliard, Bureau Chief  
Subdivision Review Section

JD/ML

cc: County Sanitarian  
County Planning Board ✓

STATE OF MONTANA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
CERTIFICATE OF SUBDIVISION APPROVAL  
(Section 76-4-101 et. seq., MCA)

TO: County Clerk and Recorder  
Ravalli County  
Hamilton, Montana

E.Q. #06-1075

THIS IS TO CERTIFY THAT the plans and supplemental information relating to the subdivision known as **Greathouse Place Subdivision**

A tract of land located in and being a portion of the SE 1/4, Section 27, Township 10 North, Range 20 West, P.M.M., Ravalli County, Montana

consisting of five (5) lots have been reviewed by personnel of the Permitting and Compliance Division, and,

THAT the documents and data required by ARM Chapter 17 Section 36 have been submitted and found to be in compliance therewith, and,

THAT the approval of the Plat is made with the understanding that the following conditions shall be met:

THAT the lot sizes as indicated on the Plat to be filed with the county clerk and recorder will not be further altered without approval, and,

THAT each lot shall be used for one single-family dwelling, and,

THAT each individual water system will consist of a well drilled to a minimum depth of 25 feet constructed in accordance with the criteria established in Title 17, Chapter 36, Sub-Chapters 1, 3, and 6 ARM and the most current standards of the Department of Environmental Quality, and,

THAT the data provided indicates an acceptable water source at a depth of approximately 100 to 200 feet, and,

THAT each individual wastewater treatment system will consist of a septic tank, effluent filter, and subsurface drainfield of such size and description as will comply with Title 17, Chapter 36, Sub-Chapters 1, 3, and 6 ARM, and,

THAT each subsurface drainfield shall have an absorption area of sufficient size to provide a maximum application rate of 0.5 gallons per day per square foot of drainfield for Lots A1 to A4, and,



THAT when the existing water supply system on Lot A5 is in need of extensive repairs or replacement it shall be replaced by a well drilled to a minimum depth of 25 feet constructed in accordance with the criteria established in Title 17, Chapter 36, Sub-Chapters 1, 3, and 6 ARM and the most current standards of the Department of Environmental Quality, and,

THAT when the present sewage treatment system on Lot A5 is in need of extensive repairs or replacement it shall be replaced by a septic tank and subsurface drainfield of such size and description as will comply with Title 17, Chapter 36, Sub-Chapters 1, 3, and 6 ARM, and,

THAT the bottom of the drainfield shall be at least four feet above the water table, and,

THAT no wastewater treatment system shall be constructed within 100 feet of the maximum highwater level of a 100 year flood of any stream, lake, watercourse, or irrigation ditch, nor within 100 feet of any water supply source, and,

THAT the water supply, wastewater treatment and storm drainage systems must be located as shown on the approved plans and attached lot layout, and,

THAT the developer and/or owner of record shall provide each purchaser of property with a copy of the Plat, approved location of water supply and wastewater treatment system as shown on the attached lot layout, and a copy of this document, and,

THAT instruments of transfer for this property shall contain reference to these conditions, and,

THAT plans and specifications for any proposed wastewater treatment systems will be reviewed and approved by the county health department and will comply with local regulations and ARM, Title 17, Chapter 36, Subchapters 3 and 9, before construction is started.

THAT departure from any criteria set forth in the approved plans and specifications and Title 17, Chapter 36, Sub-Chapters 1, 3, and 6 ARM when erecting a structure and appurtenant facilities in said subdivision without Department approval, is grounds for injunction by the Department of Environmental Quality.

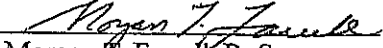
Pursuant to Section 76-4-122 (2)(a), MCA, a person must obtain the approval of both the State under Title 76, Chapter 4, MCA, and local board of health under section 50-2-116(1)(i), before filing a subdivision plat with the county clerk and recorder.

YOU ARE REQUESTED to record this certificate by attaching it to the Plat filed in your office as required by law.

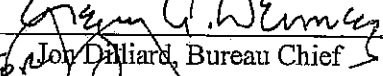
Subdivision Approval  
Page 3 of 3  
Greathouse Place  
EQ #06-1075  
Ravalli County

DATED this 1st day of August, 2005.

RAVALLI COUNTY HEALTH OFFICER

By:   
Morgan T. Farrell, R. S.  
Ravalli County Environmental Health  
215 South 4<sup>th</sup> - Suite D  
Hamilton, MT 59840

RICHARD OPPER  
DIRECTOR

By:   
Jon Dilliard, Bureau Chief  
Public Water and Subdivision Bureau  
Permitting and Compliance Division  
Department of Environmental Quality

Owner's Name: Victoria L. Greathouse

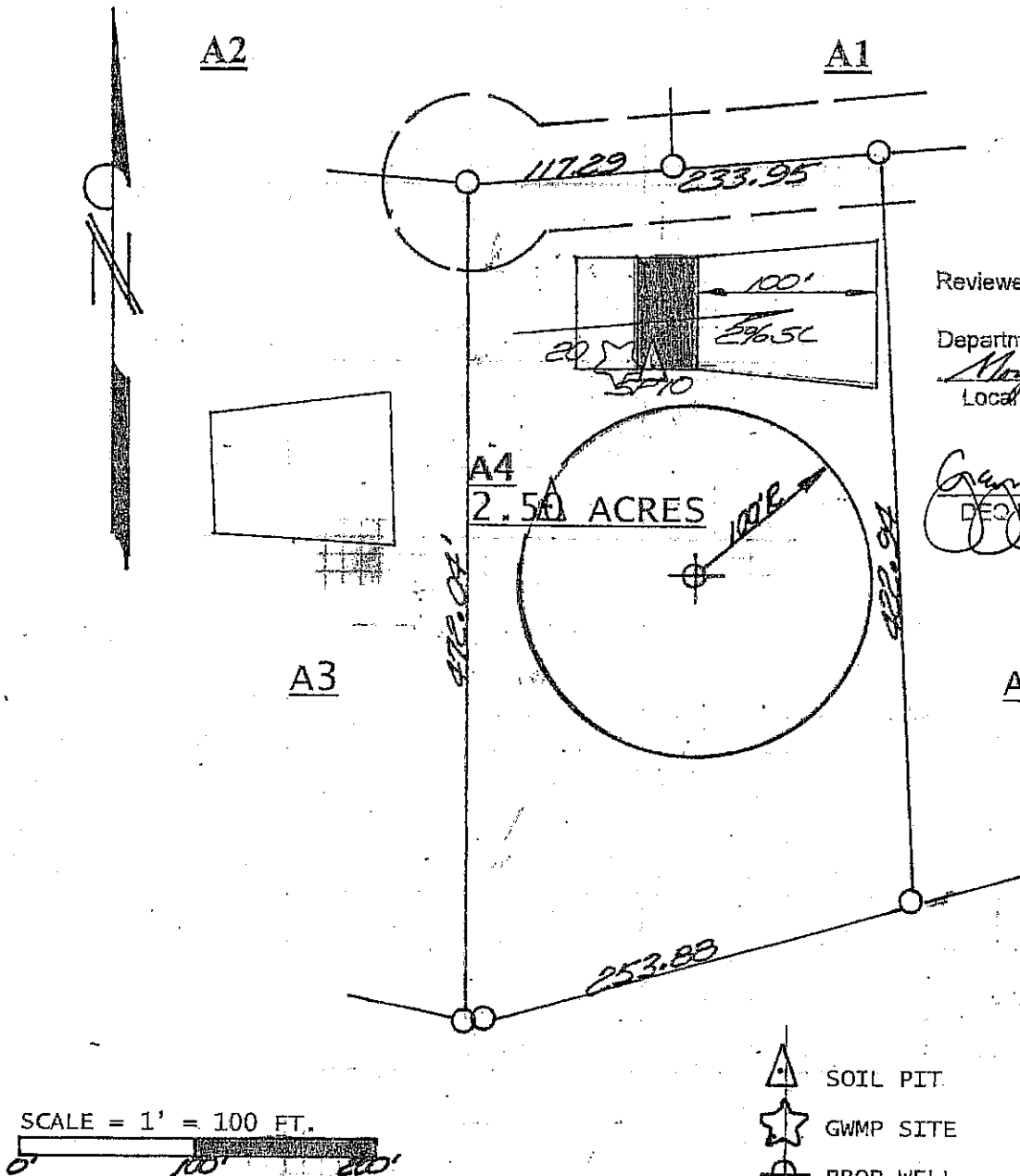
DRWS 1/5

# GREATHOUSE PLACE SUBDIVISION

FOR

VICTORIA L. GREATHOUSE

Ptn. SE ¼, SEC 27, T10N, R20W., P.M.M



Howard R. Anderson, P.E.  
Specialized Engineering  
P. O. Box 535  
Hamilton, Mt. 59849

Reviewed by the Local Reviewing Authority  
Under contract with the  
Department of Environmental Quality/ PC  
*Morgan J. Smith* 8-1-05  
Local Reviewer Date

EQ #06-1075  
Accepted under contract  
*Greg W. Wernke* 8/11/05  
DEQ Representative Date

- SOIL PIT
- GWMP SITE
- PROP WELL
- EXIST. WELL

- EXISTING MIX ZONE
- PROPOSED DRAINFIELD
- PROPOSED REPLACEMENT

**RECEIVED**  
AUG 03 2005  
MT DEQ PUBLIC WATER  
& SUBDIVISIONS BUREAU

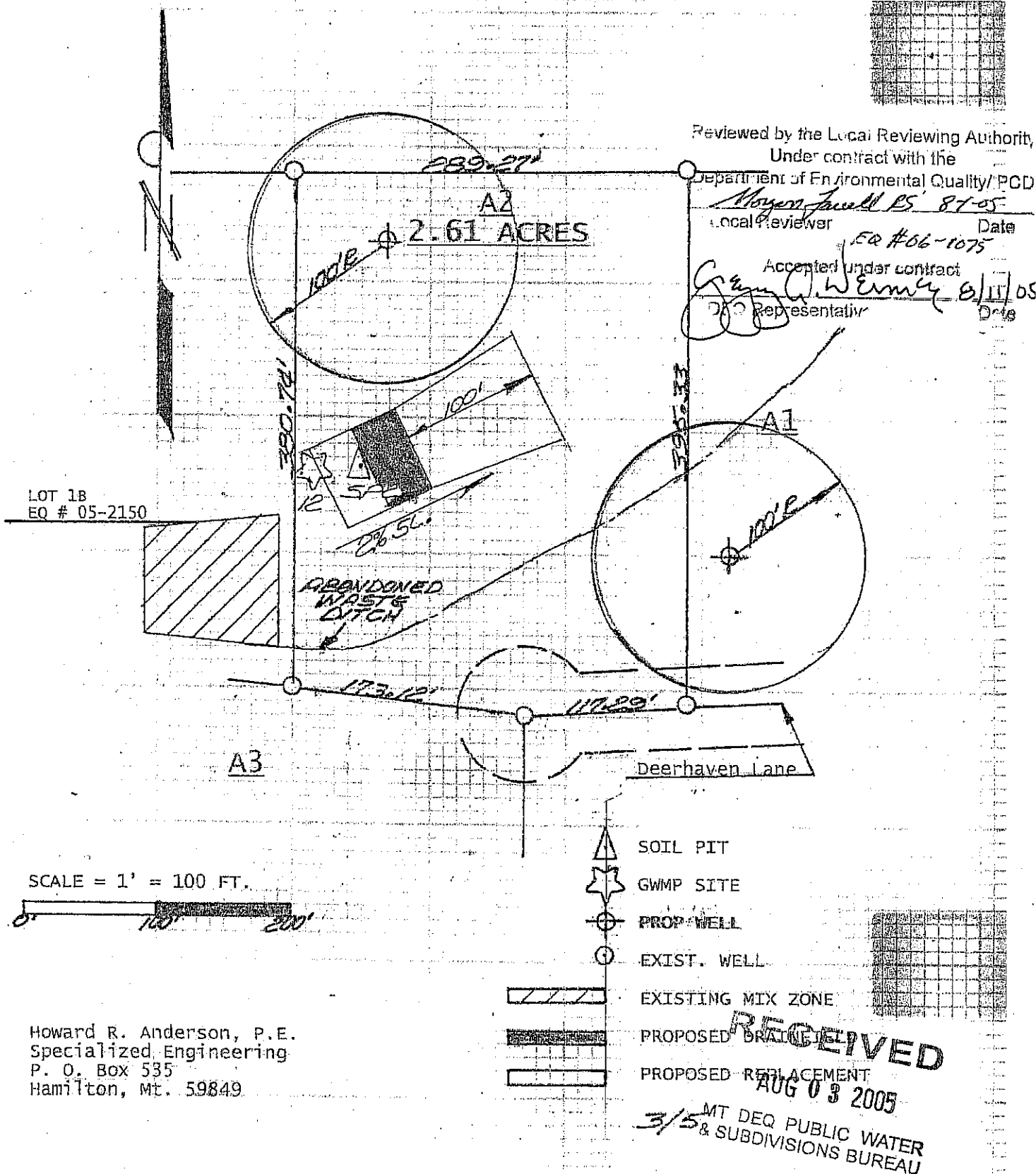
2/5

# GREATHOUSE PLACE SUBDIVISION

FOR

## VICTORIA L. GREATHOUSE

Ptn. SE 1/4, SEC 27, T10N, R20W., P.M.M.



Howard R. Anderson, P.E.  
Specialized Engineering  
P. O. Box 535  
Hamilton, Mt. 59849

# GREATHOUSE PLACE SUBDIVISION

FOR

VICTORIA L. GREATHOUSE

Ptn. SE ¼, SEC 27, T10N, R20W., P.M.M

Reviewed by the Local Reviewing Authority

Under contract with the

Department of Environmental Quality/ PCD

*Morgan J. Smith* 128 8-1-05  
Local Reviewer Date

EQ #06-1075

Accepted under contract

*Gary D. Werning* 8/11/05  
Representative

A1

DEERHAVEN WAY

283.85

30'

PREVIOUS DEQ APPROVAL  
EQ # 05-2150

RCEHD  
#12449-P

A5  
2.50 ACRES

EXISTING WELL  
JACKSON  
NO RECORD  
65' DEEP-50 GPM  
SOURCE OF WATER TESTING

HWY 93

A4

SCALE = 1' = 100 FT.



Howard R. Anderson, P.E.  
Specialized Engineering  
P. O. Box 535  
Hamilton, Mt. 59849



SOIL PIT



GWMP SITE



PROP WELL



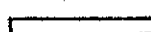
EXIST. WELL



EXISTING MIX ZONE



PROPOSED DRAINFIELD



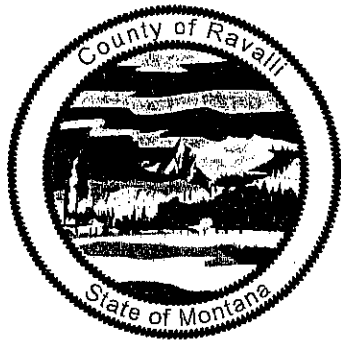
PROPOSED REPLACEMENT

RECEIVED

5/5

AUG 03 2005

MT DEQ PUBLIC WATER  
& SUBDIVISIONS BUREAU



## ROAD AND BRIDGE DEPARTMENT

244 FAIRGROUNDS ROAD

HAMILTON, MONTANA 59840

TELE: 406.363.2733 • FAX: 406.363.6701

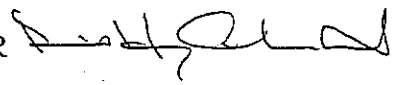
NOV 30 2006

IC-06-11-1842  
Ravalli County Planning

### EXHIBIT A-4

DATE 29 NOVEMBER 2006

TO RAVALLI COUNTY PLANNING DEPARTMENT

FROM DAVID H. OHNSTAD, COUNTY ROAD SUPERVISOR 

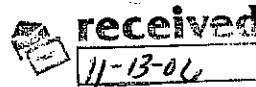
SUBJECT GREATHOUSE PLACE PRELIMINARY DESIGN REVIEW

Attached please find analysis and comment from Ravalli County's consulting engineers relative to the preliminary design submittal for the proposed Greathouse Place subdivision. The Road & Bridge Department will approve this preliminary design, with the understanding and expectation that those issues identified in the consulting engineer's report of 02 November 2006 will be addressed appropriately and completely through the final design process.

The project owner shall demonstrate that stormwater will be effectively managed on-site and will conform to DEQ stormwater management regulations.

The project owner's representative's states some concern (correspondence of August 25<sup>th</sup>, attached) over the County's subdivision regulations. The Road & Bridge Department will not engage in debate over the adopted regulations.

The project owner shall submit design plans that fully comply with the adopted standards, including drainage and grading, or the plans will not be approved.



**ENGINEERING  
SURVEYING  
PLANNING**

3021 Palmer • P.O. Box 16027 • Missoula, Montana 59808-6027

(406) 728-4611  
FAX: (406) 728-2476  
wgmgroupp.com

**DATE:** November 2, 2006

**TO:** David Ohnstad, Ravalli County Road & Bridge Department

**CC:** Howard R. Anderson, P.E., Specialized Engineering

**FROM:** Jonathan L. Gass, P.E.

**RE:** Greathouse Place Preliminary Review Completion

---

On behalf of the Ravalli County Road and Bridge Department (RCRBD), we have completed our preliminary review of the above referenced project. Adequate road, grading, and drainage information has been submitted for the project. If the RCRBD is in concurrence with our review, please forward this letter to the Planning Office to be included with the full subdivision application.

A Preliminary Comment Memorandum was sent to the design engineer in accordance with Step 6 on the RCRBD's "Schedule of Activities – Processing & Coordination of Subdivision Projects" form. We are now sending this letter to your office in accordance with Step 7 of the RCRBD's Schedule of Activities to complete our preliminary review of the project.

We have included a copy of the following with this letter:

- 1) Preliminary comment memorandum from WGM Group, dated July 14, 2006.
- 2) Preliminary comment response letter from Specialized Engineering, dated August 25, 2006.
- 3) WGM Group response to design engineer comments with attachment, dated August 31, 2006.
- 4) Specialized Engineering response letter with attachment, dated October 20, 2006.

This review is based on the 2004 version of the AASHTO Geometric Design of Highways and Streets, the 2001 version of the AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT<400), and the Ravalli County Subdivision Regulations.

Review of the plans and reports are limited to general conformance with the Ravalli County Subdivision Regulations in place at the time the subdivision application was submitted. This is not a complete or comprehensive review of the design assumptions or conclusions of the design professional who submitted the plans and reports. A final set of construction plans will need to be submitted by the developer for review by the RCRBD prior to beginning construction.

Thank you for the opportunity to work with the Ravalli County Road Department. If you have any questions, please contact our office.





ENGINEERING  
SURVEYING  
PLANNING

3021 Palmer • PO Box 16027 • Missoula, MT 59808-6027

Phone: (406)728-4611  
Fax: (406)728-2476  
www.wgmgroup.com

**DATE:** July 14, 2006  
**TO:** Howard R. Anderson, PE, Specialized Engineering  
**CC:** David Ohnstad, Ravalli County Road & Bridge Department  
**FROM:** Jonathan L. Gass, P.E.  
**RE:** Greathouse Place Preliminary Review Comments

---

On behalf of the Ravalli County Road and Bridge Department (RCRBD), our office has completed a review of the preliminary grading and drainage plans and reports submitted by your office. This review memorandum is part of Step 6 on the RCRBD's "Schedule of Activities – Processing & Coordination of Subdivision Projects" form. This review is based upon the Ravalli County subdivision regulations, the 2004 version of the AASHTO Geometric Design of Highways and Streets and the 2001 version of the AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT<400).

Based on our review, we have the following comments.


#### **Roadways**

- 1) A detailed pavement design in accordance with current regulations will be required for the review of the final plans prior to construction.
- 2) A stop sign at the intersection of Deerhaven Lane and Highway 93 must be shown on the final plans.
- 3) Show 25' return radii at the intersection of Deerhaven Lane and Highway 93 on the final plans.
- 4) Please provide the cul-de-sac paved surface radius and dimensions. The cul-de-sac must meet the AASHTO criteria (AASHTO page 395).
- 5) The proposed road width does not allow for on-street parking. "No Parking" signs will be required and need to be shown on the final design plans to be installed in accordance with the Manual for Uniform Traffic Control Device. If parking is to be accommodated, a wider road will need to be provided.
- 6) Please provide a copy of the MDT approach permits for final plan review.

#### **Storm Drainage**

- 1) Ravalli County Subdivision Regulation 3-2-16 (b) states that grading plans be prepared in accordance with DEQ Circular 8. Several items required by DEQ Circular 8 are not address in the drainage report. Please revise the report to address these items.

Please respond to these comments as outlined in Step 6 of the "Schedule of Activities – Processing & Coordination of Subdivision Projects" from the RCRBD. Thank you.



# SPECIALIZED ENGINEERING

Aerial Tramways; Design, Inspection,  
Accident Investigations,  
Construction, and Risk Management  
General Civil; Subdivisions  
Sanitation

August 25, 2006

Mr. Jonathan L. Gass, P.E.  
WGM Group, Inc.  
P. O. Box 16027  
Missoula, Mt. 59808-6027

Howard R. Anderson, P.E.  
P.O. Box 535, Hamilton, MT 59840  
Office: (406) 961-3523 • Fax: (406) 961-2402

Re: Greathouse Place Preliminary Plat Review Comments:

Dear Mr. Gass:

Reference is made to your letter of July 14, 2006 regarding the above project. I am afraid your letter got lost in the shuffle someplace.

My responses are as follows:

Roadways:

- ✓ (1). Once we receive final approval of the subdivision, a pavement design will be prepared in accordance with the Chapter 4 Low-Volume Road Design--AASHTO guide for Design of Pavement Structures.
- ✓ (2). A stop sign will be installed with the final construction.
- ✓ (3). A 25 ft Radii will be installed, and it will probably be a 30 if the Highway department will Allow.
- ✓ (4). The Cul-De-Sac will meet the ASSHTO regulations, if approved by the Ravalli County Planning Department. This is the reason these dimensions were not shown. They will be on the final design in Accordance with whatever approval we receive.
- ✓ (5). The present Design does not allow for parking. The final Design may allow for parking, depending on What approval we again receive from the Ravalli County Planning Department.
- ✓ (6). I am told the owner has the current permit. It will be provided at the time of final review.

Storm Drainage:

(1). The Ravalli County Regs were adopted in error and went beyond the DEQ 8 Requirements. This was not made apparent to use until several months ago. I have asked for a change in the County Regulations To match what DEQ 8 requires. And for informational purposes, DEQ is changing its DEQ 8 Requirements. Whatever exists at the time of final roadway Design submittal will meet whatever the Requirements are at that time. The submittal meets DEQ 8 requirements which we presently have.

Thank you for your comments:

Sincerely,

Howard R. Anderson, P.E.  
Specialized Engineering:

Cc. John Greathouse  
Applebury Survey:

AUG 30 2006



ENGINEERING  
SURVEYING  
PLANNING

3021 Palmer • PO Box 16027 • Missoula, MT 59808-6027

Phone: (406)728-4611

Fax: (406)728-2476

www.wgmgroup.com

**DATE:** August 31, 2006  
**TO:** Howard R. Anderson, P.E., Specialized Engineering  
**CC:** David Ohnstad, Ravalli County Road & Bridge Department  
**FROM:** Jonathan L. Gass, P.E.  
**RE:** Greathouse Place Review Comments

---

On behalf of the Ravalli County Road and Bridge Department (RCRBD), our office further reviewed the plans and reports submitted by your office. This comment letter is in response to your comment letter dated August 25, 2006. This review memorandum is part of Step 6 in the Ravalli County Road and Bridge Department's "Schedule of Activities – Processing and Coordination of Subdivision Projects" form.

Based on our review, we have the following comments:


**Roadways**

- 1) All comments previously sent were addressed satisfactorily.

**Storm Drainage**

- 1) Attached is the only documentation we received for storm drainage for this project. We reviewed your comment regarding the storm drainage report with the Planning Department. If the project does not qualify for an exemption as outlined in subdivision regulation 3-2-16(c), a variance request would need to be made to not comply with section 3-2-16(b) or (c).

Please respond to our comments, as outlined in Step 6 of the "Schedule of Activities – Processing & Coordination of Subdivision Projects" form from the RCRBD. Once comments have been satisfactorily addressed, we will forward a final comment letter to the Ravalli County Road and Bridge Department. Thank you.



# SPECIALIZED ENGINEERING

Aerial Tramways; Design, Inspection,  
Accident Investigations,  
Construction, and Risk Management  
General Civil; Subdivisions  
Sanitation

February 18, 2006

TO WHOM IT MAY CONCERN:

Howard R. Anderson, P.E.  
P.O. Box 535, Hamilton, MT 59840  
Office: (406) 961-3523 • Fax: (406) 961-2402

Re: OG-06-02-191  
Greathouse Place  
Ravalli County Planning Department Letter of 02.14.2006

**Comments under "GRADING AND DRAINAGE PLAN"**

This document will answer the questions asked on page 1 and 2 of the above referenced letter.

The questions that were asked are shown in bold Caps, with the answer following:

**SHOW GROUND CONTOURS AT AN INTERVAL SUFFICIENT TO SHOW SLOPE:**

The light dashed line under the Profile Grade shown on the profile is the existing ground elevations On the roadway centerline At the roadway stations shown, and were taken from the contours provided by surveys and which are shown on the proposed subdivision plat, copy attached.

**SHOW LOCATIONS AND SPECIFICATIONS FOR EXISTING AND PROPOSED CULVERTS AND WATER RETENTION/DETENTION STRUCTURES, IF ANY.**

None are proposed, nor are any required under the DEQ approval obtained.

**SHOW LOCATION OF EXISTING AND PROPOSED DRAINAGE EASEMENTS, IF ANY.**

None are required.

**PROVIDE A NARRATIVE ON HOW DRAINAGE WILL BE MANAGED.**

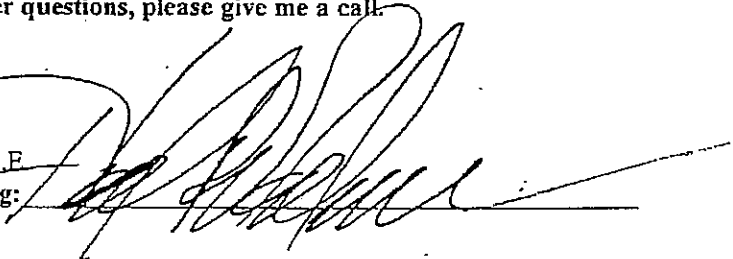
The drainage is being handled under the assumption that all storm water from the residential lots will be retained on the lots, and any storm water running off the paved section of the proposed road will be retained within the roadway ditches as proposed in the Submitted Grading and Drainage Plan.

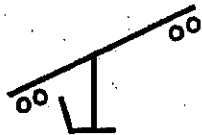
The above assumptions were approved by the State of Montana under the DEQ 8 rules and is shown in The DEQ Approval # 06-1075.

If there are any further questions, please give me a call.

Submitted By;

Howard R. Anderson, P.E.  
Specialized engineering:





# SPECIALIZED ENGINEERING

Aerial Tramways; Design, Inspection,  
Accident Investigations,  
Construction, and Risk Management  
General Civil; Subdivisions  
Sanitation

October 20, 2006

Mr. Jonathan L. Gass, P.E.  
WGM Group, Inc.  
P. O. Box 16027  
Missoula, Mt. 59808-6027

Howard R. Anderson, P.E.  
P.O. Box 535, Hamilton, MT 59840  
Office: (406) 961-3523 • Fax: (406) 961-2402

Re: Greathouse Place Subdivision  
Preliminary Plat Review  
Your comments of August 31, 2006:

Dear Mr. Gass:

I am enclosing an up dated storm water report for the above project in response to your letter of August 31, 2006.

After our Phone conversation regarding the above project, it dawned on me that perhaps you never received a copy of the DEQ Approval for this project, which did include the DEQ 8 Storm Water Report. So I am including a copy of that approval. Sending it directly to you should help.

John Greathouse told me that after he visited with you it appeared from your comments you were under the Assumption that this report was not available, or, had not been obtained, based on your comments;

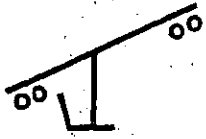
If any questions, please give me a call.

Sincerely;

Howard R. Anderson, P.E.  
Specialized Engineering:

Cc. David Ohnstad, Ravalli County Road & Bridge Department:





# SPECIALIZED ENGINEERING

Aerial Tramways; Design, Inspection,  
Accident Investigations,  
Construction, and Risk Management  
General Civil; Subdivisions  
Sanitation

Howard R. Anderson, P.E.  
P.O. Box 535, Hamilton, MT 59840  
Office: (406) 961-3523 • Fax: (406) 961-2402

## <<<STORM WATER REPORT>>>

FOR

### GREATHOUSE PLACE

AS PER DEQ 8--2002 EDITION

TO: DEQ ; RCEHD; AND RAVALLI COUNTY PLANNING:

RE: EQ# 06-1075 Approved August 12, 2005:

#### 1.0 DEVELOPER FOR THIS PROJECT:

The Developer for this project, and person to be responsible for completion of any storm water Facilities is the Developer, who is>>

Mrs. Victoria L. Greathouse  
239 Martin Lane  
Florence, Mt. 59833

#### 2.0 LOT SIZE and USE:

Five (5) lots are proposed for this project and they are as follows regarding lot sizes.

Lot A1 = 3.37 Acres

Lot A2 = 2.61 Acres.

Lot A3 = 2.50 Acres

Lot A4 = 2.50 Acres

Lot A6 = 2.50 Acres This Lot is has an existing residence and is developed.

All lots are for residential use only. There are no commercial facilities involved.

#### 3.0 EXISTING STORM WATER DRAINAGE FACILITIES:

There are Two (2) existing depressions or Irrigation Waste depressions located on or adjacent to This Proposed subdivision. Storm Water Drainage or Waste Irrigation flow from these two Areas flow directly to US Hwy 93 and into their storm water facilities. [36" CMCP Under 93]

There is a Natural depression on lots A2 and A1, which does not carry any natural flowing Storm water or irrigation water or irrigation waste water. Lots A2 and A1 slope naturally To this depression. There is some natural flow coming from the North through Lot A1

There is a natural depression that carry's some waste irrigation water along the South sides of Lots A3, A4, and A5. This natural depression flows to US Hwy 93. Both of these Drainage Facilities are un-named on the USGS map attached to this report.

**4.0 DISCUSSION OF EXISTING GROUND SURFACE and CONDITIONS:**

Lots A1 and A2 slope gently towards the natural depression located on these two lots, Then flows to US Hwy 93. There is a 36" CMCP under 93.

Lot A3 slopes to either the Depression on Lot A2 or towards the Waste irrigation ditch Located on the Southerly side of A3, A4 and A5. And flows to a 36" CMCP under 93

Lot A5 is an existing residential lot with landscaping. No new storm water flows will be Developed.

Lot A4 slopes gently (3%) to either the roadway ditches as proposed, or to the Waste Irrigation Ditch on US Hwy 93

Soil types on this project for all lots is a Sandy Loam, medium to fine Sands, with a layer Of silty Loam over the Sands.

Ground cover is an old abandoned hay field, gently sloping towards the two natural depressions. There is a good ground cover of shrubs, small trees, and grasses along the natural depression On Lot A1 and the Waste Irrigation Ditch located on the Southerly side of A3, A4 and A5.

**5.0 DESIGN PARAMETERS AND CONSIDERATIONS FOR THIS PROJECT:**

For this project, we have determined that the following assumptions regarding storm water Generated from this project site will be followed.

1. Stormwater generated from building activities on each lot will be retained on site either in landscape areas, Small ditches, or other means. No storm water generated from building activities Will be allowed to leave any of the lots. Lot A5 is exempt from this requirements as it is Developed and landscaped.
2. Stormwater generated from the proposed new roads will be retained in the roadside ditches And or very small retention ditches.
3. No changes are to be made to the small depressions or waste irrigation ditches, as they are Natural, have been there historically for a long time, and no disturbance is recommended.

**6.0 RAINFALL PARAMETERS:**

The following Rainfall parameters will be used for this report, as per DEQ 8 Requirements:

*	Two (2) Year--1Hours Rainfall	=	0.38" DEQ 8-5 Page 15
*	Ten (10) Year--6 Hour Rainfall	=	1.20"
*	Ten (10) Year--24 Hour rainfall	=	1.80"
*	100 (100) Year--6 Hour Rainfall	=	1.80"
*	100 (100) Year--24 Hour Rainfall	=	2.80"



**PAGE 3>>STORM WATER REPORT>>GREATHOUSE PLACE:**

---

**7.0 ESTIMATED LOT DISTURBANCE FOR EACH LOT//AVERAGE:**

As Previously approved by DEQ:

The following estimated disturbance is proposed for each lot within this subdivision.

Actual building footprints are not provided as part of this subdivision

*	Access Driveway from the proposed Road to the residence is>.	= 3,000 sq. ft = 0.07 Ac.
*	Residence Footprint	= 3,500 sq. ft = 0.08 Ac.
*	Shop or other Building footprint	= 1,500 sq. ft = 0.03 Ac.
TOTALS =		= 8,000 sq. ft. = 0.18 Ac.

**7.0 CALCULATED RUNOFF BEFORE DEVELOPMENT--EACH LOT:**

Using the Rational Method:

$$Q = CIA = \text{cfs}.....\text{DEQ 8-2.1}$$

Q in Cu. Ft. = CIA x STORM EVENT IN SECONDS:

C	=	Runoff Coefficient
		Paved Areas = 0.8 > 0.9*
		Graveled Areas = 0.3 > 0.8*
		Landscaped = 0.1 > 0.3*
		Unimproved = 0.3*
* = recommended by DEQ		

I	=	Rainfall Intensity
A	=	Total Acres Involved

THEREFORE; FOR EACH LOT, BEFORE DEVELOPMENT, THE CALCULATED RUNOFF IS AS FOLLOWS; Based on a Two (2) year one Hour Storm Event.

Lot A1	=	0.3 x 0.38" / hr x 3.37 Ac x 3,600 Sec	= 1,384 Cu. Ft.
Lot A2	=	0.3 x 0.38" / hr x 2.61 Ac x 3,600 Sec	= 1,071 " "
Lot A3	=	0.3 x 0.38" / hr x 2.50 Ac x 3,600 Sec.	= 1,026 " "
Lot A4	=	0.3 x 0.38" / hr x 2.50 Ac x 3,600 Sec	= 1,026 " "
Lot A5	=	All ready developed---No additional storm water runoff	

These values as calculated include the proposed road right of way.

**8.0 CALCULATED RUNOFF AFTER DEVELOPMENT FOR EACH LOT,**

Using the Rational method, and;

Using the Two (2) year one Hour Storm Event:

Lot A1 = Access road	$= 0.8 \times 0.38 \times 0.07 \text{ Ac} \times 3,600$	=	76.6 cu. Ft.
Residence	$= 0.9 \times 0.38 \times 0.08 \text{ Ac} \times 3,600$	=	98.5 " "
Shop	$= 0.9 \times 0.38 \times 0.03 \text{ Ac} \times 3,600$	=	36.9 " "
<hr/>			
Sub Total >>For Typical Residence		=	212.0
Remaining Open Space	$= 0.3 \times 0.38 \times [3.37 - 0.18] \times 3,600$	=	1,309.0
<hr/>			
Total is >>		=	1,521.0 cu. Ft.

$$\text{Lot A2} = 212.0 + (0.3 \times 0.38 \times [2.61 \text{ Ac} - 0.18 \text{ Ac}] \times 3,600) = 1,209.3 \text{ cu. Ft.}$$

$$\text{Lot A3} = 212.0 + (0.3 \times 0.38 \times [2.50 \text{ Ac} - 0.18 \text{ Ac}] \times 3,600) = 1,164.1 \text{ cu. Ft.}$$

$$\text{Lot A4} = 212.0 + (0.3 \times 0.38 \times [2.50 \text{ Ac} - 0.18 \text{ Ac}] \times 3,600) = 1,164.1 \text{ cu. Ft.}$$

Lot A5 = Not required to be calculated as no additional runoff--already developed.

**9.0 INCREASED RUNOFF GENERATED FOR EACH DEVELOPED LOT  
TWO (2) YEAR ONE HOUR STORM EVENT**

LOT NO.	CALCULATED RUNOFF BEFORE DEVELOPMENT	CALCULATED RUNOFF AFTER DEVELOPEMNT	INCREASE
A1	1,384.0	1,521.0	+ 137.0
A2	1,071.0	1,209.3	+ 138.3
A3	1,026.0	1,164.1	+ 138.1
A4	1,026.0	1,164.1	+ 138.1
A5.			

THEREFORE, each building lot, or building site needs to be landscaped or provide slight Depressions, or other means to contain the generated storm water from on site developments;

**FOR LANDSCAPING>>**

Acres Required is  $138.1 \text{ Cu. Ft.} / 3600 / 0.38 / [0.9 + .1] = 0.10 \text{ Acres}$

Or

4,356 Sq. Ft.

**FOR A DITCH OR DEPRESSION ALONG THE ACCESS ROAD>>**

To contain 76.6 Cu. Ft., provide a ditch that is at least 0.5' deep with 4:1 side slopes  
Or an equivalent area of landscaping or grassy swales, depending on the final point of  
The driveway / access location.

Final Storm Water Pollution Prevention is resting in the hands of the developer and buyer:

**PAGE 5>>STORM WATER REPORT>>GREATHOUSE PLACE:**

---

**10.0 10 YEAR PEAK FLOW FOR ROADWAYS: DEQ 3.1**

This section of EQ 8 provides or requires that all culverts to be Constructed under roadways be Designed to carry the 10 Year Peak flow and the 100 year peak flow, without overtopping The adjacent drain fields or home sites. {DEQ 3.1—Pag 7 of 26}

The following statements are made for this project, REGARDING THIS SECTION:

- \* No culverts are proposed under Deerhaven Lane
- \* Lots A2 and A3 Building site locations are approximately two ft above The proposed roadway grade at the cul de sac.
- \* Lot A4 proposed building site is about 1.5 ft above the proposed Grade of Deerhaven Lane
- \* Lot A1 needs to be built with a finished floor elevation of 2.5 ft above the present Ground elevation as proposed in the DEQ approval site.
- \* Lot A5, the existing residence, is above the existing ground and will not flood under Andy storm event as listed above.

CALCULATED TEN YEAR FLOW FOR DEERHAVEN LANE ASSUMING THE FOLLOWING CONDITIONS:

- \* 30 ft width of paving with a C value of 0.9

Area of Deerhaven Lane >>  $560 \text{ Lin. Ft.} \times 40 \text{ ft.} = 22,400 \text{ Sq. Ft.}$

Total =  $22,400 \text{ Sq. Ft.}$  or 0.52 Acres:

**11.0 10 YEAR PEAK FLOW FOR ROADWAYS :DEQ 3.1—CONTI....**

Q Ten Year = Roadways = Using a Ten Year Six Hours rainfall Intensity:

Q 10 Year for 6 hours = 1.20" or 0.20" / hr. Therefore

Q 10/6 =  $.20" \times 0.90 \times 0.52 \text{ Acres} \times 6 \times 3,600 = 2,022 \text{ Cu. Ft.}$

Volume contained by roadway ditches—both Sides:

W / Ditch @ 1.0 ft deep and 4:1 side slopes in and out.

Total Ditch Length is  $[560 \times 2] = 1,120 \text{ Lin. Ft.}$

VOLUME OF DITCHES =  $4 \text{ Sq. Ft./ ft} \times 1,120 \text{ Lin. Ft.} = 4,132 \text{ Cu. Ft.}$  Therefore OK.

THEREFORE, volume of the roadside ditches is large enough for a 10 year 6 Hour Storm<<<OK

Q 10 Year for a 24 Hour Storm = 1.80" of rainfall or 0.075 " / hr, therefore

Q 10/24 =  $0.075 \times 0.90 \times 0.52 \times 24 \times 3,600 = 3,033 \text{ Cu. Ft.}$

Volume of the roadside ditches is 4,132 Cu. Ft, therefore large enough to contain the Storm event.

**12.0 100 YEAR PEAK FLOW FOR ROADWAYS: DEQ 3.1**

Q 100 year = Roadways

Q 100 year = six (6) Hour = 1.80" or 0.30 " / Hr.; therefore

Q 100 / 6 = 0.30" x 0.90 x 0.52 x 6 x 3,600 = 3,032 Cu. Ft.

The volume of the roadside ditches is enough to handle the 100 year storm event, with No overtopping of the proposed roadway and no flooding of the two adjacent residences.

There will be natural percolation into the on site soils during a 100 Year Six (6) Hour Storm Event, however no calculation of this item is made as its not necessary to retain the storm Event.

**13.0 100 YEAR PEAK FLOW FOR ROADWAYS—DEQ 3.1—CONTI....**

Q 100 year = roadways = 24 Hour Storm Intensity

Q 100 Year = 2.8" of rain in 24 hours or .12" / Hr.

Q 100/24 = 0.12"/hr x 0.90 x 0.52 Acres x 3,600 x 24hrs = 4,852 cu. Ft.

The volume of the roadside ditches is not quite adequate to carry this volume without Overtopping the roadside ditches. Since the ditches are lower that the centerline profile of this Road, there will be no overtopping of the roadway. The excess storm water will just flow out onto The adjacent lands at the edge of Hwy. 93.

And in the above calculations, percolation into the soils will occur, but is not taken into Consideration, as the roadway will not be overtopped.

A perc. Rate as determined for this project site by this Engineer will be between 3 to 6 Min/Inch. This is dependent on the amount of the first Soil Horizon that is removed from the proposed ditches and if the Sandy Loam material is exposed in the bottom of the ditches.

**14.0 COMMENTS REGARDING THIS PROJECT SITE AND SUMMARY:**

The following comments are offered to assist with this review:

- \* A walk around the property shows no evidence of storm water entering this site, Nor leaving this site, except for the Waste irrigation ditch along the Southerly side Of Lots A3, A4 and A5, and the Northerly depression that comes from the North and enters Lot A1.
- \* The Depression on Lot A2 does not carry any surface flow, waste irrigation flows, and is Just a dry natural depression.
- \* The depression along the Northerly side of Lot A1 does carry some waste irrigation water And would carry any storm water that might enter the depression.
- \* Both of the waste ditches, or depressions, or drainage ways enter into 36" CMCP crossing under The existing US Hwy 93.
- \* Possible runoff from the adjoining lots to the river is very minimum due to the very undulating Ground surfaces, the old abandoned irrigation ditches, the ground cover, and the very cobbly Nature of some of the ground surfaces.

**PAGE 7>>>>STORM WATER REPORT>>>GREATHOUSE PLACE:**

**15.0 SUPPORTING DATA AND COMMENTS:**

The following additional and supporting data is enclosed to assist with this review.

- \* Present DEQ approval for this project, which includes the DEQ 8 requirements. It is noted that this was submitted on the first round of submittals, but may have been lost.
- \* USGS Contour Map of the site.
- \* The DEQ 8 storm water report that was submitted with the DEQ 8 submittal, and was approved.
- \* A site plan showing contours for this project, and on this site plan (8 1/2" x 11") I have shown the two drainage ditches / depressions, and have indicated the direction of any surface flows that might take place.

**END OF SUBMITTAL:**

Submitted by;

Howard R. Anderson, P.E.  
Specialized Engineering: \_\_\_\_\_

Greathouse:

Page 7 of 7  
Printed 10.18.2006

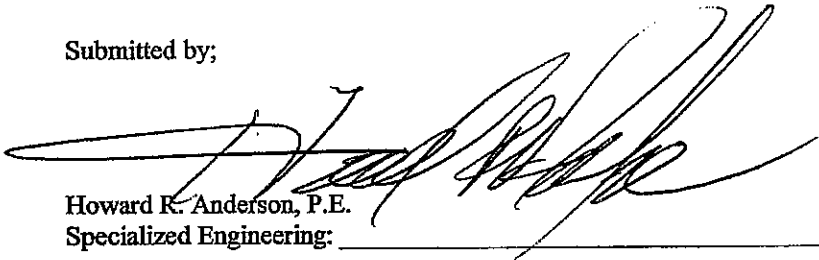
15.0 SUPPORTING DATA AND COMMENTS:

The following additional and supporting data is enclosed to assist with this review.

- \* Present DEQ approval for this project, which includes the DEQ 8 requirements. It is noted that this was submitted on the first round of submittals, but may have been lost.
- \* USGS Contour Map of the site.
- \* The DEQ 8 storm water report that was submitted with the DEQ \$ submittal, and was approved.
- \* A site plan showing contours for this project, and on this site plan (8 1/2" x 11") I have shown the two drainage ditches / depressions, and have indicated the direction of any surface flows that might take place.

END OF SUBMITTAL:

Submitted by;



Howard R. Anderson, P.E.  
Specialized Engineering: \_\_\_\_\_

Greathouse:

TOPO! map printed on 10/23/06 from "Untitled4.tpo"

114°07.000' W

114°06.000' W

WGS84 114°05.000' W

46°37.000' N

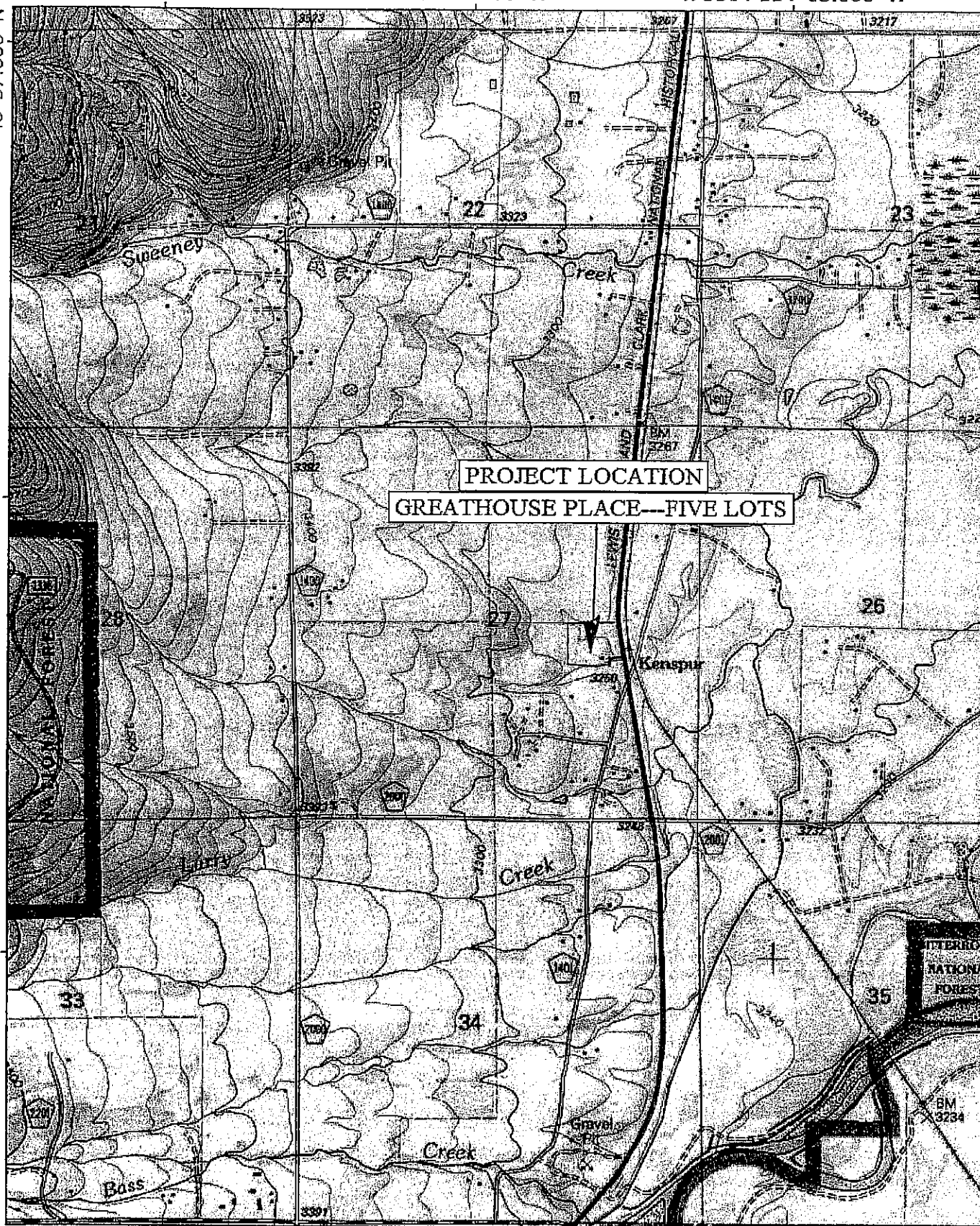
46°37.000' N

46°36.000' N

46°36.000' N

46°35.000' N

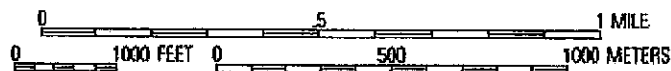
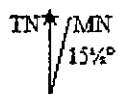
46°35.000' N



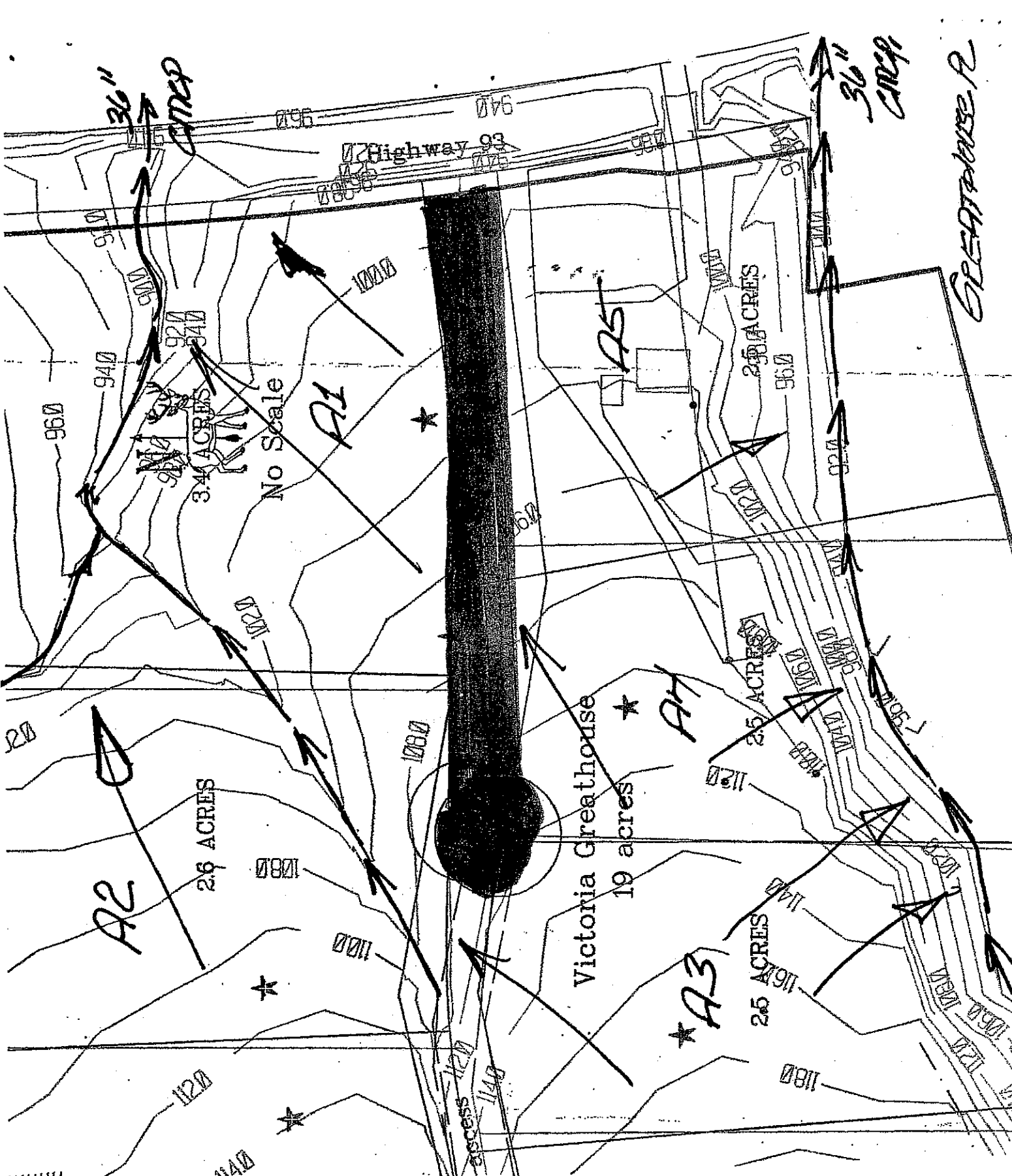
114°07.000' W

114°06.000' W

WGS84 114°05.000' W



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)





TO: DEQ & RCEHD:

June 28, 2005

**DEQ 8—STORM WATER DATA**

FOR

**GREATHOUSE PLACE—VICTORIA L. GREATHOUSE**

+++++

Responsible Person>>this project is >>

Victoria L. Greathouse—406.777.3930  
239 Martin Lane  
Florence, Mt. 59833

GENERAL REQUIREMENTS		LOT No A3, A4, A2, & A5	LOT NO A1
Gross Lot Size		2.50 Ac.	3.37 Ac
Area of County Roads		None	None
Area of Private Roads		0.17 Ac	0.25
Net Lot Size.		2.33 Ac	3.12Ac..
List Slope of Lot:		2% Generally West to East 1% South to North	same
Lot Surface Description.		Gently Sloping—with undulations.	
Vegetation—Natural.		Pine Trees w / Native vegetations Same And open fields.	
Vegetation—Planted.		None	None
List Natural Streams, Creeks on Prop.		None	small stream North Side
List any Irrigation Ditches>>Describe.		None	None
Road Information—(Internal)		Paved internal private road w/ ditches	
Road Surface>>Private		AC Paving	same
List Road Ditches:		To be built as part of the private road	
Exist. Retention Swales/ on Roads		None	None
Exist Drainage Draws		None	North side of this lot



**DEQ 8—STORM WATER DATA>>FOR VICTORIA L. GREATHOUSE**

<b>GENERAL REQUIREMENTS</b>	<b>LOT No A3,A4,A2, &amp; A5</b>	<b>LOT No A1</b>
List any drainage draws or creeks that Come from adjacent lands onto this Project site>>	None	One on North Side of this lot.
<hr/>		
Estimated Disturbances for each Lot in Project Based on a system of Averages:		
Road>>Private	7,000 sq. ft	10,000 sq. ft.
Driveway to House	3,000 sq. ft	3,000 sq. ft.
House Foot Print	3,500 sq. ft.	3,500 sq. ft.
Garage/Shop	1,500 sq. ft.	1,500 sq. ft.
<b>TOTAL DISTURBANCE</b>	15,000 sq. ft. = 0.34 Ac.	18,000 sq. ft. = 0.41 Ac.
<b>% OF TOTAL</b>	14%	12%
<hr/>		
Calculated Runoff before Development: Using the SCS Method	None computed	Same
Project is too flat for a determination of flood flow to be calculated, using the SCS method		

**CALCULATED RUNOFF BEFORE DEVELOPMENT:**

Using the Rational Method>>

$$Q = c \times I \times A.$$

$$Q = 0.4 \times 0.3 \times 2.50 \text{ Ac} \\ = 0.30 \text{ cfs}$$

$$Q = 0.4 \times 0.3 \times 3.37 \\ = 0.404 \text{ cfs}$$

Therefore Calculated Runoff over a two (2) hours storm event before development is as follows;

$$Q = 0.30 \times 7200 \\ = 2,160 \text{ Cu. Ft.}$$

$$Q = 0.404 \times 7200 \\ = 2,908 \text{ Cu. Ft.}$$

For each lot

For Lot A1.

Note that this project is too flat for surface runoff except for the paved private road section and that Runoff water will go to the roadside ditches.



# **DEQ 8—STORM WATER DATA—VICTORIA L. GREATHOUSE:**

## **USING THE RATIONAL METHOD:**

There is need to retain the storm water runoff from the roofs, driveways, patio's and or other man made structures.

Using the rational method, DEQ 8-2.1;  $Q = C \times I \times A$  and the following flows are generated. All based on estimated averages for building sites.

Roofs/all Bldgs.	$Q = 0.9 \times 0.4 \times 5,000 / 43,560$	=	0.040 cf.
Access Driveway	$Q = 0.8 \times 0.4 \times 3,000 / 43,560$	=	0.022 cf.
Private Road	$Q = 0.9 \times 0.4 \times 4,000 / 43,560$	=	0.033 cf.
TOTAL CALCULATED RUNOFF		=	0.095 cf.

THEREFORE TOTAL CALCULATED RUNOFF OVER STORM EVENT PERIOD FOR EACH TYPE OF STRUCTURE IS AS FOLLOWS>>

Roofs/all Bldgs.	= $Q \times 7200$ (two hr event)	=	$0.040 \times 7200$	=	288 Cu. Ft.
Access Driveways	= $Q \times 7200$ (two hr event)	=	$0.022 \times 7200$	=	160 Cu. Ft.
Private Road	= $Q \times 7200$ (two hr event)	=	$0.033 \times 7200$	=	240 Cu. Ft.

~~FOR RETAINING THE STORM WATER ON SITE >> provide the following~~

~~Roofs/all Bldgs.~~ PLANT LAWN AND OR LANDSCAPING WHERE APPROPRIATE AND THAT AREA NEEDS TO BE>>  $[.85 - .1] \times 0.4 \times \text{Acres} \times 7200 = 288 \text{ Cu. Ft.}$  ~~Acres Ret = 1.1381380050~~

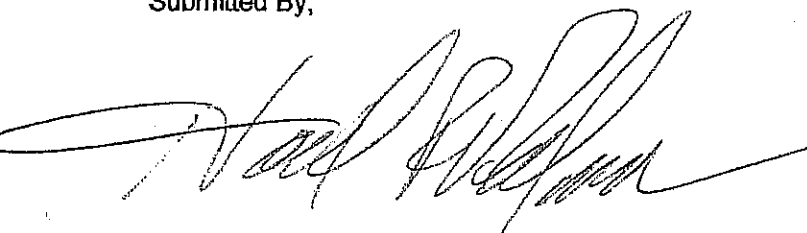
~~Access Driveway~~ construct small roadside ditches or swales. A roadside ditch on the access road, Both side that is 6" deep w/ 1.5/1 side slopes will retain 288 Cu. Ft. of Water. Slope the access driveway with a cross slope of 2% Maximum Slope. Gravel Driveways will not produce the above Storm Event.

~~Private Road~~ Construct a road side ditch that has inside slopes of 4:1, a backslope of 2:1, with a Total depth of 12", will retain the following amount of stormwater>>600 cu. Ft. per roadside ditch per Lot> Show this ditch on the Grading and Drainage Plan.

## **OTHER COMMENTS and RECOMMENDATIONS:**

Retain as much of the natural vegetation as possible with a minimum disturbance to the on site soils, vegetation, and with attention to locations and routes of access and building locations will retain all storm water as per DEQ 8 and will prevent any runoff. Protect the existing drainage draw on Lot A1. Landscape with as much retention materials as can be provided to retain storm water.

Submitted By;



Howard R. Anderson, P.E.  
Specialized Engineering;

Date:

7.01.05

